

REMARKS/ARGUMENTS

The Office Action dated April 5, 2007 and the references cited therein have been carefully considered. In response to the Office Action, Applicant has amended Claims 1, 4, 6-8, 11, 14, 16 and 19-20 and added new Claims 21-29 which, when considered with the remarks set forth below, are deemed to place the case with Claims 1-29 in condition for allowance.

Allowable Subject Matter

Claims 2-3, 6, 10, 13-14 and 16 have been deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC §103

The remaining claims, however, have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,858,298 to Humal in view of U.S. Patent No. 3,758,649 to Frattarola.

In response, Applicant has amended independent Claims 1 and 11 to further define features of the present invention. Applicant has also amended Claims 4, 6-8, 11, 14, 16 and 19-20 to delete phrases containing the terms “preferably,” “in particular” and “for example.” Applicant has further added new Claims 21-24 to define additional features of the invention and has added new Claims 25-29 to define those features deleted from the claims along with the terms “preferably,” “in particular” and “for example.”

In particular, amended Claims 1 and 11 respectively define a method and an apparatus for producing a marking on a substrate, wherein radiation is introduced into surface structurings of a replication surface to produce a shaping region and the marking is formed by shaping the shaping region on to the substrate under pressure. Claims 1 and 11 have been further amended to define at least two portions of the replication surface set to different temperatures. It is respectfully submitted that none of the prior art references, taken alone or

combined, discloses a replication surface having surface structurings to form markings under pressure or setting two portions of a replication surface to different temperatures, as defined in amended Claims 1 and 11.

Instead, the cited Humal patent only discloses a method for closing pores of selected areas of the surface of a thermoplastic porous material, wherein the surface of the thermoplastic material is radiated partially and heated to a temperature exceeding the melting point of the porous material. During the heating step the surface of the porous material is compressed by a smooth body (11). There is absolutely no mention of the smooth body (11) having surface structurings to form a marking, as defined in amended Claims 1 and 11.

Moreover, while the Humal patent discloses two gas discharge lamps (33 shown in Figure 9) for providing heat, there is no teaching or suggestion to control these lamps in a manner whereby different temperatures are settable at the surface of the porous material, as defined in amended Claims 1 and 11. Thus, the Humal device can not produce an individual marking on a substrate, which form or appearance is changeable according to the temperature distribution set at the replication surface.

Turning to the Frattarola patent, this patent discloses an apparatus and a method for producing holographic relief patterns in the surface of a thermoplastic tape. The thermoplastic tape (204 shown in Figure 2 and described in col. 4, lines 22-43) passes between calender rollers (206, 208) in contact with a metal master (226), which is in the form of a continuous loop and contains the holographic pattern to be embossed onto the surface of tape (204). The lower calender roller (208) comprises a resistance type heating element (220) in the hub of the roller to heat the metal master (226) and the adjoining part of the tape (204).

The Frattarola patent does not disclose two controllable energy sources, which are able to set at least two portions of the replication surface of the metal master area contacting the tape to different temperatures, as defined in amended Claims 1 and 11. Thus, unlike the present invention, the Frattarola device does not produce an individual marking on the tape, wherein the form or appearance of the marking is changeable according to the temperature distribution set at the metal master area.

Even a combination of the Humal and Frattarola patents does not lead to the present invention as defined in amended Claims 1 and 11. Specifically, neither the Humal nor the

Frattarola patent discloses the use of two controllable energy sources to force areas of a replication surface to different temperatures, which contacts a substrate.

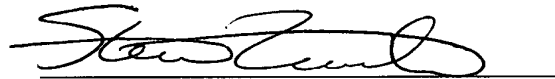
The advantages of the present invention include: i) markings of freely selectable individual form or appearance are producible; ii) only a single replication apparatus is needed (it is not necessary to change the replication surface, which is very expensive, to produce different markings); and iii) by controlling both energy sources independently, the marking is changeable based on the temperature distribution forced to the replication surface.

Therefore, for all of the foregoing reasons, it is respectfully submitted that amended Claims 1 and 11, and the claims that depend therefrom, patentably distinguish over the prior art.

Conclusion

In view of the foregoing amendment and remarks, favorable consideration and allowance of the application with Claims 1-29 are respectfully solicited. If the Examiner believes that a telephone interview would assist in moving the application toward allowance, he is respectfully invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,



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